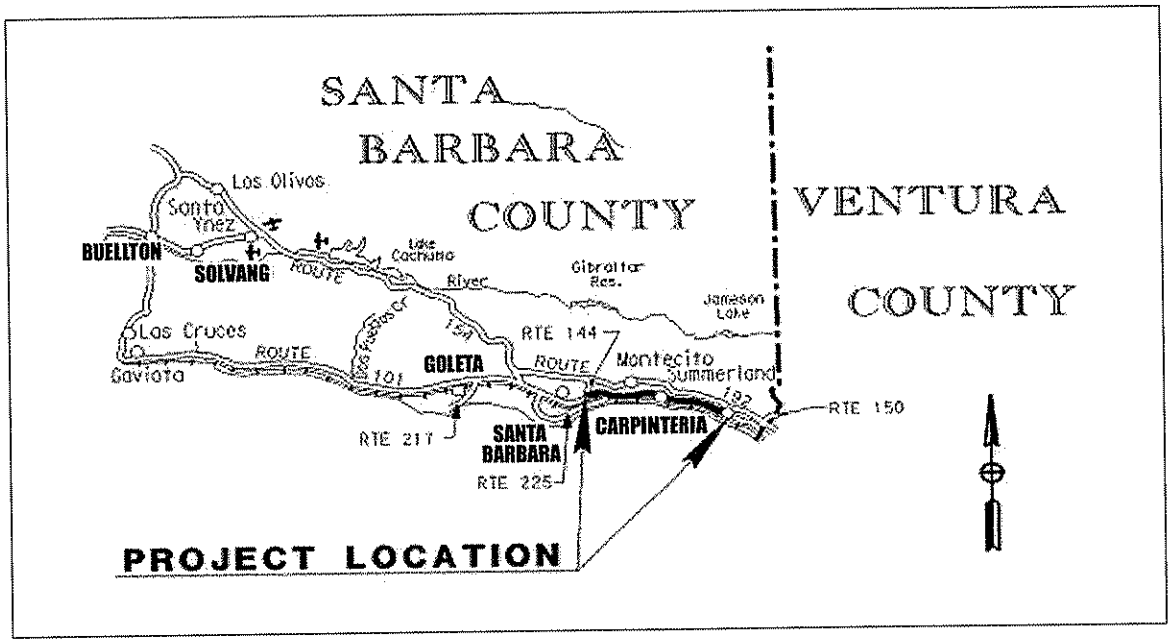

Noise Abatement Decision Report

Information Taken from South Coast HOV Noise Study Report,

dated March 2010

On Route 101 from

0.2 mile south of Bailard Avenue in the City of Carpinteria to

Sycamore Creek in the City of Santa Barbara (Construct HOV Lanes)

05-SB-101-PM 1.4/12.3

06-1449-0500000225

August 24, 2011

Caltrans

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August 24, 2011

Concurrence By: John H Fouche Date: 8-24-11

John Fouche, Senior Transportation Engineer
Caltrans, San Luis Obispo
District 5

This Noise Abatement Decision Report has been prepared under the direction of the following registered civil engineer. The registered civil engineer attests to the technical information contained herein and the engineering data upon which recommendations, conclusions, and decisions are based.

Marcia F. Vierra

MARCIA F. VIERRA

8/24/11

DATE

List of Abbreviated Terms

Caltrans	California Department of Transportation
dB	A measure of sound pressure level on a logarithmic scale
dBA	A-weighted sound pressure level
FHWA	Federal Highway Administration
Leq	Equivalent sound level (energy averaged sound level)
Leq[h]	A-weighted, energy average sound level during a 1-hour period
Benefited residence	A dwelling unit expected to receive a noise reducton of at least 5 dBA from the proposed abatement measure
Impacted residence	Generally, a dwelling unit exterior expected to be exposed to a traffic noise impact of of 66 dBA or more in the design year of the proposed project
Critical design receiver	The design receiver that is impacted and for which the absolute noise levels, build vs. existing noise levels, or achievable noise reduction will be at a maximum where noise abatement is considered
Planned, designed, and programmed	A noise-sensitive land use is considered planned, designed, and programmed when it has received final development approval (generally the issuance of a building permit) from the local agency with jurisdiction
Date of public knowledge	The date that a project is approved—approval of the final environmental documentation (e.g., Record of Decision) is complete
NSR	Noise study report
NADR	Noise Abatement Decision Report
NAC	Noise abatement criteria
ED	Environmental document
Reasonable allowance	A single dollar value—a reasonable allowance per benefited residence that embodies five reasonableness factors

1. Introduction

It is proposed to widen the Route 101 freeway from 4 lanes to 6 lanes in Santa Barbara County from 0.2 miles south of Bailard Avenue in the City of Carpinteria to Sycamore Creek in the City of Santa Barbara. High Occupancy Vehicle (HOV) lanes are proposed for construction from 0.4 mile south of Carpinteria Creek (PM 2.0) to Sycamore Creek (PM 12.3). Due to the constrained existing right of way, additional stormwater treatment facilities are also proposed south to the Bailard Avenue Interchange. Three build alternatives and a No-build alternative have been considered.

The Noise Abatement Decision Report presents the preliminary noise abatement decision as defined in the Caltrans Traffic Noise Analysis Protocol. This report has been approved by a California licensed professional civil engineer. The project level noise study report (NSR) prepared for this project is hereby incorporated by reference.

1.1. Noise Abatement Assessment Requirements

Title 23, Code of Federal Regulations (CFR), Part 772 of the Federal Highway Administration (FHWA) standards (23 CFR 772) and the Caltrans Traffic Noise Analysis Protocol (Protocol) require that noise abatement be considered for projects that are predicted to result in traffic noise impacts. A traffic noise impact is considered to occur when future predicted design-year noise levels with the project "approach or exceed" Noise Abatement Criteria (NAC) defined in 23 CFR 772 or when the predicted design-year noise levels with the project substantially exceed existing noise levels. A predicted design-year noise level is considered to "approach" the NAC when it is within 1 dB of the NAC. A substantial increase is defined as being a 12-dB increase above existing conditions.

The Protocol establishes a process for assessing the reasonableness and feasibility of noise abatement. Before publication of the draft environmental document, a preliminary noise abatement decision is made. The preliminary noise abatement decision is based on the feasibility of evaluated abatement and the preliminary reasonableness determination.

Noise abatement is considered to be acoustically feasible if it provides noise reduction of at least 5 dBA at receivers subject to noise impacts. Other nonacoustical factors relating to geometric standards (e.g., sight distances), safety, maintenance, and security can also affect feasibility. The preliminary reasonableness determination is made by calculating an allowance that is considered to be a reasonable amount of money, per benefited residence, to spend on abatement. This reasonable allowance is then compared to the engineer's cost estimate for the abatement. If the engineer's cost estimate is less than the allowance, the preliminary determination is that the abatement is reasonable. If the cost estimate is higher than the allowance, the preliminary determination is that abatement is not reasonable.

There may be situations where "severe" traffic noise impacts exist or are expected but the abatement measures listed in 23 CFR 772.13(c) are not feasible or reasonable. A severe noise impact is considered to occur when predicted exterior noise levels equal or exceed 75 dBA-Leq(h) or are 30 dB or more above existing noise levels. In these instances, noise abatement measures other than those listed in 23 CFR 772.13(c) must be considered. Such measures are considered "unusual and extraordinary" abatement measures and may include measures such as constructing noise barriers that have an estimated construction cost that exceeds the reasonableness allowance or providing interior abatement in residential units. Unusual and extraordinary abatement proposed on a Federal-aid project is subject to approval by FHWA on a case-by-case basis. When noise abatement is provided on private properties consistent with this policy, an agreement must be entered into with the owner of the subject property that specifies that Caltrans is not responsible for any future costs of operating or maintaining the noise abatement measures. Unusual and extraordinary abatement must reduce noise by at least 5 dB to be considered feasible from an acoustical perspective.

The NADR presents the preliminary noise abatement decision based on acoustical and nonacoustical feasibility factors and the relationship between noise abatement allowances and the engineer's cost estimate. The NADR does not present the final decision regarding noise abatement; rather, it presents key information on abatement to be considered throughout the environmental review process, based on the best available

information at the time the draft environmental document (DED) is published. The final overall reasonableness decision will take this information into account, along with other reasonableness factors identified during the environmental review process. These factors may include:

- environmental impacts of abatement construction,
- public and local agency input,
- life cycle of abatement measures,
- views/opinions of impacted residents, and
- social, economic, environmental, legal, and technological factors.

At the end of the public review process for the DED, the final noise abatement decision is made and is indicated in the final environmental document. The preliminary noise abatement decision will become the final noise abatement decision unless compelling information received during the environmental review process indicates that it should be changed.

1.2. Purpose of the Noise Abatement Decision Report

The purpose of the NADR is to:

- summarize the conclusions of the NSR relating to acoustical feasibility and the reasonable allowances for abatement evaluated,
- present the engineer's cost estimate for evaluated abatement,
- present the engineer's evaluation of non-acoustical feasibility issues,
- present the preliminary noise abatement decision, and
- present preliminary information on secondary effects of abatement (impacts on cultural resources, scenic views, hazardous materials, biology, etc.).

The NADR does not address noise barriers or other noise-reducing treatments required as mitigation for significant adverse environmental effects identified under the California Environmental Quality Act.

1.3. Project Description

The purpose of this project is to reduce congestion and improve travel time on Route 101 (SR-101) within the project limits. To achieve this purpose, the project proposes to construct an additional lane on SR-101 in both the northbound and southbound directions to be used as High Occupancy Vehicle (HOV) lanes within existing right of way. Adding capacity to the corridor will reduce peak hour congestion and improve freeway operations within the project limits.

The current Annual Average Daily Traffic (AADT) in the project limits ranges between 66,000 at the southern end and 92,000 at the northern end and is forecasted to exceed ranges of 94,000 to 130,000 by the year 2030. The existing capacity of SR-101 within the project limits, and throughout much of the Santa Barbara south coast, is congested during peak periods and weekends. During these times, the facility operates at Level of Service (LOS) F congested flow conditions for two to four hours daily in each direction (SBCAG *Congestion Management Program,* 2007). Without capacity improvements, LOS F conditions on SR-101 within the project limits are forecast to exceed nine hours a day in each direction by 2030 (SBCAG's *101 in Motion* July 2006).

The forecasted rise in congestion and delay is a result of several factors, including increased long distance commuting from Ventura County, internal population growth, which is forecast to expand by ten percent by 2020 in Santa Barbara County (SBCAG *Regional Growth Forecast,* 2007), and interregional traffic growth, including goods movement. There is a need to improve highway operations to reduce delay, travel time, and congestion related traffic collisions. The congested conditions on SR-101 result in delay for local traffic, transit, commercial trucking, tourist, commuters, and emergency response vehicles. The congested conditions of SR-101 also affect local parallel routes by substantially increasing the volume of diverted traffic from drivers attempting to avoid

congested highway conditions. Analysis of historical collision trends in the corridor show a pattern of congestion-related traffic collisions. This project represents one component of a larger SR-101 corridor improvement strategy in northern Ventura County and southern Santa Barbara County.

1.4. Affected Land Uses

The freeway within the project limits is currently two-lanes in each direction with a varying median width. In general, the freeway is bordered with a mix of commercial, residential, and open space.

Land Uses in the Project Area

A field investigation was conducted to identify land uses that could be subject to traffic noise impacts from the proposed project. Single-family residences, multi-family residences, schools, religious institutions, and in some cases hotel/motels were identified as Activity Category B land uses in the project area. Numerous commercial uses in the area are Activity Category C land uses.

As required by the Protocol, noise abatement is only considered for areas of frequent human uses that would benefit from a lowered noise level. Accordingly, this impact analysis focuses on locations with defined outdoor activity areas, such as residential backyards, decks, common outdoor use areas for motel/hotels, school playgrounds, and common use areas at multi-family residences.

Land uses along the SR-101 project corridor are predominantly residential with pockets of commercial, agricultural, and recreational parcels. Except for the Summerland area, topography along the corridor is relatively flat. There is a UPRR train track south of SR-101 that is used to move freight and passengers by Amtrak's Surfliner, which mostly runs parallel to the freeway. Traffic on SR-101 is the dominant source of noise in the area. Additionally, local roadways such as Via Real or Jameson Lane contribute substantial amount of noise to the ambient environment especially during morning and afternoon commute hours. The project corridor can be largely divided into seven segments based

upon major local interchanges, similar or like topographies, and separate or unique neighborhoods. The following describes those segments:

PM 1.4 to Carpinteria Creek: Located to the north of SR-101 are mobile homes with pockets of vacant or agricultural lots. The Rancho Granada Mobile Home Park and the San Roque Mobile Home Park (Activity Category B) are the only receptor locations with frequent outdoor use areas within these limits. An existing 5- to 6-foot high private property wall provides some traffic noise reduction.

Franklin Creek to South Padaro Lane: Northerly from Franklin Creek, the adjacent areas on both sides of the corridor are predominantly residential, including single-family residences, mobile homes, townhouses, and apartments (Activity Category B). Some multi-family residential developments have masonry property walls, but most of the residential receptors are exposed to SR-101 traffic noise without any form of existing barrier. Motel 6, Sandy Reef Inn, and the Best Western Hotel are located within these limits along the corridor, but do not have frequent outdoor use areas directly facing the freeway. As the highway approaches South Padaro Lane, the surrounding areas become more agricultural and commercial. Past Santa Monica Road, the UPRR railroad track reaches SR-101 from the south and then runs parallel to it.

South Padro Lane to North Padaro Lane: Homes located south of SR-101 are primarily beach front homes, and there is dense vegetation between these homes and the highway. There is an at-grade crossing at South Padaro Lane, and trains blow their horn prior to approaching the crossing. To the north of SR-101, there are single-family residences and multi-family residences (Activity Category B) in an area known as "Serena Park." There is a recently-constructed Caltrans' sound wall protecting most of these residences, and the height ranges from 10 to 14 feet. Other land uses along SR-101 in the area include the Santa Barbara Polo Club, vacant lots, commercial buildings, and a religious institution.

North Padaro Lane to Sheffield Drive: This area is known as Summerland, and the UPRR train track runs parallel to SR-101. There are at-grade crossings at Finney Street and Evans Avenue, and trains blow their horn as they approach the crossing. This creates

a short-term spike in ambient noise at some residences near the crossing. Most of the first row residences (Activity Category B) north of the highway have been converted into commercial use or appear to be in the process of conversion to a commercial use. Many of the second or third row houses (Activity Category B) north of SR-101 are located on the hillside with a deck or a multi-level terraced backyard overlooking the ocean; these structural features can be considered as frequent outdoor use areas. There are beach front homes south of SR-101, and most of these homes have no frequent outdoor use areas directly facing the freeway. Other Activity Category B land uses include Summerland Elementary School, Lookout Park, and a basket ball court. There is the Summerland Inn without a frequent outdoor use area facing the freeway. If the future exterior noise is expected to be severely impacted, the interior of this inn (Activity Category E) could be considered as a potentially affected use.

Sheffield Drive to San Ysidro Road/Eucalyptus Lane: The land use on both sides of SR-101 is predominantly residential. The UPRR railroad track runs parallel to the highway and begins diverging from the highway near Posilipo Lane. There is an at-grade grade crossing at Posipilo Lane, and trains blow their horn as they are approaching. While most of first row homes (Activity Category B) north of SR-101 are directly exposed to freeway noise, residences south of SR-101 are buffered by heavy vegetation. The old Miramar Hotel site is located south of SR-101 and east of Eucalyptus Lane. Per the County of Santa Barbara, this parcel is planned for a future hotel and resort development. There is an existing 12-foot high sound wall on the right-of-way line just east of Posilipo Lane and south of SR-101.

San Ysidro Road/Eucalyptus Lane to Butterfly Lane: SR-101 is slightly depressed relative to the surrounding residences between Eucalyptus Lane and Olive Mill Road. The highway starts ascending past Olive Mill Road, and stays elevated relative to the surrounding residences. There is the Montecito Inn with a pool (Activity Category B). The UPRR railroad track approaches SR-101 in this segment and runs parallel to it. The predominant land use north of SR-101 becomes commercial past Olive Mill Road. A few residences south of SR-101 have 6- to 8-foot high private property walls, providing some

noise reduction; however, most of the residences adjacent to the highway are exposed to SR-101 without any solid barriers such as masonry walls.

Butterfly Lane to Sycamore Creek: All sensative receptors located in this segment are protected by existing soundwalls.

2. Results of the Noise Study Report

The NSR for this project was prepared by Parsons on March 25, 2010 and approved by Karl Mikel on March 25, 2010.

Existing noise levels for residents that border the highway have been evaluated for the entire project limits and are at or above the Federal Highway Administration noise abatement criterion for residences (67-dBA) at most locations in the project vicinity where noise levels were measured or predicted. Due to constrained right of way within a heavily developed corridor, only soundwalls have been considered to be viable for this project.

See Attachment 1 for details of acoustical feasibility, numbers of benefited receivers reasonable allowance per benefited receiver, and reason for selected wall heights for all walls presented in the NSR.

3. Preliminary Noise Abatement Decision

3.1. Summary of Key Information

The preliminary noise abatement decision was based on the following criteria: indications of acoustical feasibility; number of benefited residences; total reasonableness allowance and engineer's cost for the abatement; total reasonableness allowanace and engineer's cost estimate for each barrier and barrier height evaluated; and comparisons of cost versus allowance.

Many receptors were chosen on both sides of the highway within the project limits to represent sensitive receivers that have the potential to be adversely affected by the proposed construction project. Receptors were selected for their proximity to the dominant noise source, and their ability to reflect the highest noise levels that would be expected in a particular neighborhood.

The preliminary engineer's estimate is $47 per square foot for barrier construction. This figure includes all items necessary for the construction of the barrier, including footings, drainage modifications, retaining walls, landscaping for graffiti abatement, right-of-way costs, and standard aesthetic treatment. It also includes, traffic control, miscellaneous items and a 10% contengency component. Retaining walls were included only if necessary due to the presence of a soundwall. Bridge modifications necessary to support the soundwalls were included. Costs associated with the mitigation of secondary effects of the abatement were not included.

Residences considered to be severe receivers that cannot receive adequate noise abatement from the proposed soundwall locations will need further evaluation for unusual and extraordinary abatement. These locations are:

R50 – 2 homes in Summerland; soundwall S392 was not effective in appropriately reducing noise levels for these homes.

R72 – 2 homes south of E. La Vuelta; portions of soundwall S464 were dropped through the floodway which rendered the remaining wall ineffective in appropriately reducing noise levels for these homes.

R73– 1 home north of E. La Vuelta; portions of soundwall S464 were dropped through the floodway which rendered the remaining wall ineffective in appropriately reducing noise levels for this home.

R84/ST24 – 2 homes south of Hixon Rd; a portion of soundwall S498 was dropped through the floodway which rendered the remaining wall ineffective in appropriately reducing noise levels for these homes.

3.2. Non-acoustical Factors Relating to Feasibility

Walls can create maintenance access problems, make it difficult to maintain landscaping, create drainage problems, and provide pockets for trash and garbage to accumulate. Noise barriers can also raise concerns about traffic safety if reducing stopping or merging sight distance, or by reducing errant vehicle recovery room. They may raise concerns about public safety by blocking areas from the view of patrolling police.

Some proposed wall locations could not be considered for construction as they were not feasible from an engineering perspective. There were locations proposed for walls that blocked stopping sight distance for vehicles that would be a safety problem. There were other locations where walls would have blocked floodways that could not be accomodated with large enough floodgates and therefore could not be constructed.

3.3. Preliminary Recommendation and Decision

There may be situations where several forms of abatement are feasible and have costs that are less than the allowance. For example, in the case of a barrier, different barrier heights could be feasible and have costs that are less than the allowance. In these cases, a recommendation for a specific barrier height must be made. For barriers height recommendations, the following factors must be considered: line of sight between a receiver and an 11.5 foot hight truck exhaust stack; reduction for absolute noise to be

below the severe impact level; number of benefited receivers; cost per benefited receivers; and degree of noise reduction; and 15 year minimum life cycle.

Soundwall S281 contained a segment from Station 279+80 to Station 289+50, that if constructed, would have blocked stopping sight distance to the detriment of the traveling public and would require extensive reconstruction of an operating railway line to remediate. This reconstruction would be cost prohibitive and the segment was removed to allow the balance of the wall to be evaluated for financial reasonableness.

The project was evaluated for locations of 100 year floodways. The District 05 Hydraulics Engineer determined that the 100 year flood flows could not be adequately passed through soundwall modifications and would have blocked flood flows to the detriment of upstream improvements. It would be feasibly impossible to insert enough floodgate length in soundwalls and have them be structurally competent. Overlapped openings in soundwalls at these locations were evaluated, and while able to pass flood flows, would no longer be acoustically feasible. This potential hydraulic impact resulted in the recommendation of removal of wall portions within the following locations:

From Station 470+00 to Station 473+00, soundwall S464
From Station 478+75 to Station 479+00, soundwall S464
From Station 483+00 to Station 490+25, soundwall S498

There is one location where a soundwall is proposed to be extended to close an acoustic gap in the soundwall systems. This gap area involves a soundwall that was not finacially reasonable but portions were retained for unusual and extraordinary abatement for severe receptors. Soundwall S519 was found to not be financially reasonable and was shortened for use as an unusual and extraordinary abatement for only the severe receptors. However, the new northwesterly ending point would be near an existing 8' wall. The recommendation to extend the new soundwall to connect to the existing wall would provide noise abatement to an additional 8 receptors.

The following is a detailed description of the soundwalls proposed in the NSR and their final recommendation constituting the Preliminary Noise Abatement Decision.

S90/S98 This 10'-14' soundwall is reasonable and feasible, the entire length (1750') is recommended for construction.

S158 This 10'-12' soundwall is reasonable and feasible, the entire length (1800') is recommended for construction.

S174 This 12' soundwall is reasonable and feasible, the entire length of 849' plus and additional 120' of length to offset and stagger the wall across the bridge over the Santa Monica Creek is recommended for construction.

S181 This 10' soundwall is reasonable and feasible, the entire length (1981') is recommended for construction.

S182 This soundwall is rejected for excessive cost.

S188 This soundwall is rejected for excessive cost.

S210 This soundwall is not financially reasonable however a portion of it from Station 211+00 to Station 221+00 (1000' long) is recommended to be retained for construction as unusual and extraordinary abatement due to the presence of severe receptors. The retained portion is 10' tall.

S238 This soundwall is rejected for excessive cost.

S257 This soundwall is rejected for excessive cost

S281 This 12' soundwall had a portion that blocked stopping sight distance through a horizontal alignment curve that could not be constructed due to railroad relocation impacts. Of the remaining 2 segments, only the most southerly segment from Station 262+00 to Station 279+80 (1780' long) was found to be reasonable and feasible and recommended for construction. The remainder of the wall segments is rejected for excessive cost.

S310 This 12' soundwall is reasonable and feasible, the entire length (1250') is recommended for construction.

S334 This soundwall is rejected for excessive cost.

S374 This soundwall is rejected for excessive cost

S392 This 14'-16'soundwall is reasonable and feasible, and the entire length (2402') is recommended for construction. The wall is to be relocated to the access control line at the edge of the state right of way.

S405 This soundwall is rejected for excessive cost.

S414 This 16'soundwall is reasonable and feasible, the entire length (1427') is recommended for construction.

S424 This 14'-16' soundwall is not financially reasonable however it is recommended to be retained for unusual and extraordinary abatement due to the presence of severe receptors, for the entire length of 864'.

S446 This soundwall is rejected for excessive cost

S452/S464 This 12' soundwall was evaluated with S464 (10'-12') as one soundwall. Soundwall S464 crosses the 100 yr floodway in two locations. Both locations cannot be accomodated by floodgates and therefore those sections cannot be constructed. The remaining two segments were not financially reasonable, however portions were retained for construction as unusual and extraordiany abatement due to the presence of severe receptors. The two retained segments are from Station 458+00 to 467+00 (900' long) at 12' tall, and Station 473+00 to 478+75 (575' long) at 10' tall. The most southerly remaining segment was shifted from the edge of shoulder to the right of way line to increase the clear recovery area.

S471 This soundwall is rejected for excessive cost

S489 This soundwall is rejected for excessive cost.

S498 This 10' soundwall crossed the 100 yr floodway which could not be accomodated by floodgates and therefore could not be constructed. The remaining segment was not financially reasonable however a portion from Station 490+25 to Station 500+50 (1025' long) was retained for construction as unusual and extraordinary abatement due to the presence of severe receptors.

S519 This 10'-14' soundwall is not financially reasonable however a portion of it is retained for unusual and extraordinary abatement due to the presence of severe receptors. An additional portion is retained on northern end to

close an acoustical gap to existing block wall. The remaining wall recommended for construction is from Station 511+00 to Station 527+57 for a total wall lengh of 1657'.

S520 This 10' soundwall is not financially reasonable however a portion of it from Station 511+00 to Station 523+50 (1250' long) is retained for construction as unusual and extraordiany abatement due to the presence of severe receptors.

S535 This 12' soundwall is not financially reasonable however it is recommended to be retained for unusual and extraordinary abatement due to the presence of severe receptors, for the entire length of 499'.

S549 This soundwall and a required 4' tall, 800' long retaining wall is rejected for excessive cost.

See Attachment 2 for data regarding the reasonableness determination for the recommended preliminary noise abatement decision.

Based on the studies so far accomplished, Caltrans intends to incorporate noise abatement measures as recommended above. The recommended remaining walls are not project alternative specific as they have the same characteristis with inside or outside widening modeling data. Calculations based on preliminary design data indicate that the abatement will reduce noise levels by at least 5 dBA for:

312 receptors at a cost of $12,502,312

A map of all soundwalls is included in Attachment 3 and is coded for walls recommended to remain and walls that are recommended to no longer be considered for future evaluations.

The preliminary noise abatement decision presented in this report is based on preliminary project alignments and profiles, which may be subject to change. As such, the physical characteristics of noise abatement described herein also may be subject to change. If pertinent parameters change substantially during the final project design, the preliminary noise abatement decision may be changed or eliminated from the final project design. A

final decision to construct noise abatement will be made upon completion of the project design.

The preliminary noise abatement decision presented here will be included in the draft environmental document, which will be circulated for public review. During the public outreach for the project, affected owners of properties represented by "impacted" or "benefited" receptors (those exposed to over 65-dBA from the project or those getting a minimum 5-dBA attenuation from the barrier) will have the opportunity to comment on the recommended barriers. If more than 50% of the owners are opposed, the barrier will not be constructed.

4. Secondary Effects of Abatement

It must be noted here that barriers can have their own negative impacts. Walls may interfere with the passage of air, interrupt scenic views, or create objectionable shadows. The noise abatement recommended in this preiminary noise abatement decision has the potential to result in secondary effect on resources based on the technical studies conducted for the environmental document for this project as discussed below.

Following completion of the technical studies, locations were identified where visual impacts, if blocked by soundwalls, would be particularly severe. These soundwall locations, if constructed, will block "high value" direct ocean views on public streets within the Community of Summerland. The soundwall portions in question are as follows:

From Station 383+00 to Station 402+50, soundwall S392
From Station 413+00 to Station 421+00, soundwalls S414, S424

If portions of soundwalls S392 and S414 are dropped due to severe impacts on ocean views, the remainder of those walls will no longer be financially reasonable. That will result in the entire length of those two walls being no longer considered financially reasonable.

After completion of biological technical studies, it was determined that some wetlands would be impacted by the construction of soundwalls. Soundwalls that potentially conflict with wetlands are as follows: S158, S181, S281, S310, S424 and S464.

References

Parsons. March 2010. "South Coast HOV Noise Study Report."

Attachment 1
Marcia Vieira
11-Jul-11
EA 0N7000

Table 1 - Summary of Barrier Evaluations from Noise Study Report - Chapter 7
Selected Allowance Based on Critical Receiver and Basis of Recommended Soundwall Height

Barrier / Critical Receptor	Direction	NSR begin	NSR end	Location	Inside Widening Option: Acoustically feasible?	Height (ft)	Number of Benefitted Receivers	Reasonable Allowance per Receiver	Outside Widening Option: Acoustically feasible?	Height (ft)	Number of Benefitted Receivers	Reasonable Allowance per Receiver
S89 R2	NB	84+50	93+00	ROW	no	8	0	$0				
				ROW	no	10	0	$0				
				ROW	yes	12	5	$45,000				
				ROW	yes	14	6	$47,000		Option not used in project alternatives		
				ROW	yes	16	6	$47,000				
				Maximum benefit count to wall height ratio								
S93 R3A	NB	93+00	102+00	ROW	no	8	0	$0				
				ROW	no	10	0	$0				
				ROW	yes	12	1	$47,000				
				ROW	yes	14	18	$49,000		Option not used in project alternatives		
				ROW	yes	16	18	$49,000				
				Maximum benefit count to wall height ratio								
S159 R6	NB	151+00	169+00	ROW	yes	8	19	$51,000				
				ROW	yes	10	20	$51,000				
				ROW	yes	12	26	$51,000		No differences from inside modeling		
				ROW	yes	14	31	$53,000				
				ROW	yes	16	31	$53,000				
				Maximum benefit count to wall height ratio								
S174 R13	NB	170+07	178+56	ROW	yes	8	8	$51,000				
				ROW	yes	10	10	$53,000				
				ROW	yes	12	12	$53,000		No differences from inside modeling		
				ROW	yes	14	12	$55,000				
				ROW	yes	16	13	$55,000				
				Maximum benefit count to wall height ratio								
S181 R23	SB	171+19	191+00	ROW	yes	8	31	$39,000				
				ROW	yes	10	48	$41,000		No differences from inside modeling		
				ROW	yes	12	48	$43,000				
				ROW	yes	14	48	$43,000				
				ROW	yes	16	55	$43,000				
				Maximum benefit count to wall height ratio								
S182 R14	NB	179+50	184+00	EP	no	8	0	$0				
				EP	no	10	0	$0				
				EP	no	12	0	$0				
				EP	no	14	0	$0				
				EP	yes	16	1	$45,000		Option not used in project alternatives		
				Maximum benefit count to wall height ratio								
S186 R15	NB	183+00	194+00	ROW	no	8	0	$0				
				ROW	no	10	0	$0				
				ROW	yes	12	2	$35,000		Option not used in project alternatives		
				ROW	yes	14	2	$35,000				
				ROW	yes	16	2	$35,000				
				Maximum benefit count to wall height ratio								
S210 R21	NB	194+00	221+00	ROW	yes	8	12	$39,000				
				ROW	yes	10	16	$39,000		No differences from inside modeling		
				ROW	yes	12	21	$41,000				
				ROW	yes	14	32	$41,000				
				ROW	yes	16	32	$41,000				
				Maximum benefit count to wall height ratio								
S238 R39A	NB	231+00	242+00	ROW	no	8	0	$0				
				ROW	no	10	0	$0				
				ROW	no	12	0	$0				
				ROW	yes	14	1	$45,000		No differences from inside modeling		
				ROW	yes	16	1	$45,000				
				Maximum benefit count to wall height ratio								
S297 R29	SB	251+00	263+00	EP	no	8	0	$0				
				EP	no	10	0	$0				
				EP	yes	12	12	$45,000		No differences from inside modeling		
				EP	yes	14	12	$45,000				
				EP	yes	16	12	$45,000				
				Maximum benefit count to wall height ratio								
S281 R31	SB	262+00	314+00	EP/ROW	yes	8	33	$45,000				
				EP/ROW	yes	10	44	$47,000				
				EP/ROW	yes	12	70	$47,000	yes	12	58*	$47,000
				EP/ROW	yes	14	73	$49,000				
				EP/ROW	yes	16	76	$49,000				
				Maximum benefit count to wall height ratio								
S310 R41	NB	305+00	317+90	ROW	yes	8	2	$47,000				
				ROW	yes	10	10	$49,000				
				ROW	yes	12	18	$51,000	yes	12	17*	$51,000
				ROW	yes	14	18	$51,000				
				ROW	yes	16	18	$51,000				
				Maximum benefit count to wall height ratio								
S324 R45	NB	330+21	333+46	ROW	no	8	0	$45,000				
				ROW	yes	10	1	$47,000				
				ROW	yes	12	1	$47,000		No differences from inside modeling		
				ROW	yes	14	1	$47,000				
				ROW	yes	16	1	$47,000				
				Maximum benefit count to wall height ratio								
S374 R49A	NB	357+00	380+00	ROW	no	8	0	$0				
				ROW	no	10	0	$0				
				ROW	yes	12	9	$35,000				
				ROW	yes	14	12	$37,000		No differences from inside modeling		
				ROW	yes	16	12	$37,000				
				Maximum benefit count to wall height ratio								
S392 R52	NB	393+00	407+02	ROW	yes	8	8	$47,000				
				ROW	yes	10	9	$49,000				
				ROW	yes	12	18	$49,000				
				ROW	yes	14	26	$49,000				
				ROW	yes	16	34	$51,000	yes	16	36*	$51,000
				Maximum benefit count to wall height ratio								
S405 R65	SB	403+00	412+00	EP	no	8	0	$0				
				EP	yes	10	1	$35,000		No differences from inside modeling		
				EP	yes	12	1	$35,000				
				EP	yes	14	1	$35,000				
				EP	yes	16	2	$35,000				
				Maximum benefit count to wall height ratio								
S414 R58	NB	408+50	420+77	EP	yes	8	4	$47,000				
				EP	yes	10	7	$47,000				
				EP	yes	12	24	$49,000		No differences from inside modeling for count or allowance, but receptors change		
				EP	yes	14	36	$49,000				
				EP	yes	16	49	$51,000				
				Maximum benefit count to wall height ratio								
S424 R60	NB	420+36	429+00	EP	no	8	0	$0				
				EP	yes	10	1	$0				
				EP	yes	12	2	$0		Option not used in project alternatives		
				EP	yes	14	9	$49,000				
				EP	yes	16	11	$49,000				
				Maximum benefit count to wall height ratio								
S448 R67	NB	443+00	448+00	ROW	yes	8	1	$35,000				
				ROW	yes	10	1	$37,000				
				ROW	yes	12	1	$37,000		No differences from inside modeling		
				ROW	yes	14	1	$39,000				
				ROW	yes	16	1	$39,000				
				Maximum benefit count to wall height ratio								
S452 R70	NB	447+00	456+00	EP	no	8	0	$45,000				
				EP	yes	10	12	$45,000				
				EP	yes	12	14	$45,000		Option not used in project alternatives		
				EP	yes	14	14	$45,000				
				EP	yes	16	14	$47,000				
				Maximum benefit count to wall height ratio for critical receptor								
S464 R72	NB	455+50	479+00	EP/ROW	yes	8	8	$49,000				
				EP/ROW	yes	10	11	$49,000				
				EP/ROW	yes	12	13	$51,000		Option not used in project alternatives		
				EP/ROW	yes	14	13	$51,000				
				EP/ROW	yes	16	13	$53,000				
				Maximum benefit count to wall height ratio for critical receptor								
S471 R75	SB	461+35	481+00	ROW	yes	8	10	$47,000				
				ROW	yes	10	12	$47,000				
				ROW	yes	12	17	$49,000		Option not used in project alternatives		
				ROW	yes	14	18	$49,000				
				ROW	yes	16	19	$49,000				
				Maximum benefit count to wall height ratio								
S489 R81	SB	488+53	490+13	EP	no	8	0	$0				
				EP	yes	10	1	$35,000				
				EP	yes	12	4	$35,000		Option not used in project alternatives		
				EP	yes	14	4	$35,000				
				EP	yes	16	4	$37,000				
				Maximum benefit count to wall height ratio								
S498 R84	NB	483+00	505+69	ROW	yes	8	10	$51,000				
				ROW	yes	10	11	$53,000				
				ROW	yes	12	13	$53,000		Option not used in project alternatives		
				ROW	yes	14	15	$53,000				
				ROW	yes	16	17	$53,000				
				Maximum benefit count to wall height ratio for critical receptor								
S515 R93	SB	505+29	532+69	ROW	yes	8	14	$49,000				
				ROW	yes	10	17	$51,000				
				ROW	yes	12	25	$51,000		Option not used in project alternatives		
				ROW	yes	14	31	$51,000				
				ROW	yes	16	33	$53,000				
				Maximum benefit count to wall height ratio								
S528 R88	NB	506+40	530+69	ROW	yes	8	16	$49,000				
				ROW	yes	10	16	$51,000				
				ROW	yes	12	17	$51,000		Option not used in project alternatives		
				ROW	yes	14	18	$53,000				
				ROW	yes	16	21	$53,000				
				Maximum benefit count to wall height ratio for critical receptor								
S535 R98	SB	533+75	538+74	ROW	yes	8	1	$51,000				
				ROW	yes	10	3	$43,000				
				ROW	yes	12	6	$43,000		Option not used in project alternatives		
				ROW	yes	14	6	$43,000				
				ROW	yes	16	6	$43,000				
				Maximum benefit count to wall height ratio								
S549 R103	SB	538+99	559+00	EP	yes	8	20	$45,000				
				EP	yes	10	20	$47,000				
				EP	yes	12	21	$47,000		Option not used in project alternatives		
				EP	yes	14	21	$47,000				
				EP	yes	16	21	$47,000				
				Maximum benefit count to wall height ratio for critical receptor								

NOTES:
Highlighted allowance is recommended value for individual allowance based on critical receptor for each wall per NSR.
* Benefit count varies by inside or outside widening

Attachment 1

Attachment 2
M. Vierra
24-Aug-11
rev 1-Feb-12

Initial Determination of Reasonableness

Proposed SW (in/out count)	Number of Benefited Receivers*	Comments**	Severe Receptors	Wall location by Postmile From	Wall location by Postmile To	Wall location NSR Stationing From station	Wall location NSR Stationing To station	Wall Length Length (ft)	Total Length (ft)	Height (ft)	Area (Sf)	Ave Ht (ft)	Wall Cost 47 at $47/sf	Other Costs	comments	ROW costs @$250K/ac	Subtotal Costs	Total Costs	Allowance per Benefited Receiver	Allowance per wall	Total Allowance	Feasible (Y/N)	Reasonable (Y/N)	Unusual and Extraordinary Abatement Needed?	Proposed SW (in/out count)
S90	6		N	2.05	2.21	084+50	093+00	850	1750	14	11900	13.7	$559,300				$559,300	$1,125,932	$47,000	$282,000	$1,164,000	Y	N	N/A-Retain all	S90
S98	18		N	2.21	2.36	093+00	100+64	764		14	10696		$566,632				$566,632		$49,000	$882,000					S98 combination
			N	2.36	2.36	100+64	102+00	136		10	1360														
S158	26		N	3.31	3.54	151+00	163+00	1200	1800	10	12000	10.7	$902,400				$902,400	$902,400	$51,000	$1,326,000	$1,326,000	Y	Y	N/A-Retain all	S158
			N	3.54	3.65	163+00	169+00	600		12	7200														
S174	12		N	3.67	3.83	170+07	178+56	849	969	12	10188	12.0	$546,516				$546,516	$546,516	$53,000	$636,000	$636,000	Y	Y	N/A-Retain all	S174
		stagger on bridge-	N					120		12	1440														
S181	48		Y	3.69	4.07	171+19	191+00	1981	1981	10	19810	10.0	$931,070				$931,070	$931,070	$41,000	$1,968,000	$1,968,000	Y	Y	N/A-Retain all	S181
S182	1		N	3.85	3.94	179+50	184+00	450	4250	16	7200	12.5	$338,400				$338,400	$2,397,000	$45,000	$45,000	$1,129,000	N	N		S182
S188	2		N	3.92	4.13	183+00	194+00	1100		12	13200		$620,400				$620,400		$35,000	$70,000					S188
S210 (outside)	26		N	4.13	4.28	194+00	202+00	800		12	9600		$1,438,200				$1,438,200		$39,000	$1,014,000				Yes - partial	S210 (outside)
			N	4.28	4.41	202+00	209+00	700		14	9800														
			N	4.41	4.43	209+00	210+00	100		12	1200														
			N	4.43	4.45	210+00	211+00	100		10	1000														
			Y	4.45	4.64	211+00	221+00	1000		10	10000														
S210 (inside)	26		N	4.13	4.28	194+00	202+00	800	2700	12	9600	10.8	$1,438,200				$1,438,200	$1,438,200	$39,000	$1,014,000	$1,014,000	Y	N	Yes - partial	S210 (inside)
			N	4.28	4.41	202+00	209+00	700		14	9800														
			N	4.41	4.43	209+00	210+00	100		12	1200														
			N	4.43	4.45	210+00	211+00	100		10	1000														
(12)			Y	4.45	4.64	211+00	221+00	1000		10	10000														(12)
S238	1		N	4.83	5.03	231+00	242+00	1100	1100	14	15400	14.0	$723,800				$723,800	$723,800	$45,000	$45,000	$45,000	Y	N	No - delete	S238
S257	12	***	N	5.20	5.43	251+00	263+00	1200	6400	12	14400	12.0	$676,800	$761,200	extension		$1,438,000	$1,488,000	$45,000	$540,000	$540,000	Y	N	No - delete	S257
S281	32		N	5.41	5.60	262+00	272+00	1000		12	12000	12.0	$564,000	$224,086	floodgates		$1,443,306	$1,443,306	$47,000	$1,504,000	$1,504,000	Y	Y	N/A - Retain section	S281
				5.60	5.75	272+00	279+80	780		12	9360		$439,920	$215,300	bridge										
(70/68)	9	SSD***	N	5.75	5.93	279+80	289+50	970		12	11640	12.0	$547,080	$4,750,000	recon RR line	$242,500	$5,539,580	$5,539,580	$47,000	$423,000	$423,000	Y	N	No- delete	
	29	highest in/out modeling	N	5.93	6.16	289+50	301+50	1200		12	14400	12.0	$676,800			$3,290,000	$4,726,550	$4,726,550	$47,000	$1,363,000	$1,363,000	Y	N	No- delete	
			N	6.16	6.24	301+50	305+50	400		12	4800		$225,600												
			N	6.24	6.27	305+50	307+50	200		12	2400		$112,800	$48,000	culvert extension	$6,750									
			N	6.27	6.40	307+50	314+00	650		12	7800		$366,600												
S310 (18/17)	17	lowest in/out modeling	N	6.23	6.46	305+00	317+50	1250	1250	12	15000	12.0	$705,000				$705,000	$705,000	$51,000	$867,000	$867,000	Y	Y	N/A - Retain all	S310
S334	1		N	6.70	6.77	330+21	333+46	325	325	12	3900	12.0	$183,300				$183,300	$183,300	$47,000	$47,000	$47,000	Y	N	No - delete	S334
S374	12		N	7.40	7.65	367+00	380+00	1300	1300	14	18200	14.0	$855,400				$855,400	$855,400	$37,000	$444,000	$444,000	Y	N	No - delete	S374
S405	1		N	8.08	8.25	403+00	412+00	900	900	10	9000	10.0	$423,000				$423,000	$423,000	$35,000	$35,000	$35,000	Y	N	No - delete	S405
S392			N	7.70	7.84	383+00	390+00	700	4693	15	10500	15.7	$493,500									Y	Y	N/A - Retain all	S392
		highest cost lowest in/out modeling		7.84	8.07	390+00	402+50	1250		16	20000		$940,000												
(37/39)	37		N	8.07	8.16	402+50	407+02	452		16	7232		$339,904				$1,773,404	$3,462,020	$51,000	$1,887,000	$4,778,000				
S414			N	8.15	8.27	406+50	413+00	650		16	10400	16.0	$488,800											severe receptors above soundwall will need alternative attenuation	
	49		N	8.27	8.42	413+00	420+77	777		16	12432		$584,304				$1,073,104		$49,000	$2,401,000					S414
S424			Y	8.41	8.42	420+36	421+00	64		14	896	15.2	$42,112												
	10		Y	8.42	8.48	421+00	424+00	300		14	4200		$197,400				$615,512		$49,000	$490,000				Yes - retain wall	S424
			Y	8.48	8.58	424+00	429+00	500		16	8000		$376,000												
S446	1		N	8.84	8.94	443+00	448+00	500	3750	12	6000	12.0	$282,000				$282,000		$37,000	$37,000		Y	N	Yes - partial	S446
S452	14		N	8.92	9.07	447+00	455+00	800		12	9600	12.0	$451,200				$507,600	$2,058,600	$45,000	$630,000	$1,330,000				S452
			N	9.07	9.09	455+00	456+00	100		12	1200		$56,400											Near	
464 (13/-)	13		N	9.08	9.13	455+50	458+00	250		12	3000	11.0	$141,000				$1,269,000		$53,000	$663,000				floodway will need alternative attenuation	464
			Y	9.13	9.30	458+00	467+00	900		12	10800		$507,600												
		floodway	N	9.30	9.35	467+00	472+00	300		12	3600		$168,200												
			Y	9.35	9.41	470+00	473+00	300		12	3600		$169,200												
		floodway	N	9.41	9.52	473+00	478+75	575		10	5750		$270,250												
			Y	9.52	9.52	478+75	479+00	25		10	250		$11,750												
S471	16		N	9.19	9.28	461+35	466+00	465	1965	8	3720	11.6	$1,067,840				$1,067,840	$1,067,840	$49,000	$784,000	$784,000	Y	N	No - delete	S471
			N	9.28	9.47	466+00	476+00	1000		12	12000														
			N	9.47	9.56	476+00	481+00	500		14	7000														
S489	4		N	9.67	9.73	486+53	490+13	360	360	12	4320	12.0	$203,040				$203,040	$203,040	$35,000	$140,000	$140,000	Y	N	No - delete	S489
S498		floodway	Y	9.60	9.74	483+00	490+25	725	2269	8	5800	8.0	$272,600				$858,144	$853,144	$53,000	$583,000	$583,000	Y	N	Yes - partial, near floodway will need alternative attenuation	S498
	11		Y	9.74	9.93	490+25	500+50	1025		8	8200		$385,400												
			N	9.93	10.03	500+50	505+69	519		8	4152		$195,144					$580,544			$583,000				
S519	25		N	10.02	10.13	505+29	511+00	571	2740	14	7994	12.1	$1,552,880				$1,857,360	$1,857,360	$51,000	$1,275,000	$1,275,000	Y	N	Yes - partial	S519
			Y	10.13	10.35	511+00	522+66	1166		12	13992			$304,480	cross creek										
		acoustic gap for severe	N																						
				10.35	10.44	522+66	527+57	491		10	4910														
			N	10.44	10.54	527+57	532+69	512		12	6144														
S520	16		N	10.04	10.13	506+40	511+00	460	2429	10	4600	10.0	$1,141,630				$1,446,110	$1,446,110	$51,000	$816,000	$816,000	Y	N	Yes - partial	S520
			Y	10.13	10.37	511+00	523+50	1250		10	12500			$304,480	cross creek										
			N	10.37	10.50	523+50	530+69	719		10	7190														
S535	6		Y	10.56	10.65	533+75	538+74	499	2504	12	5988	12.0	$281,436				$281,436	$1,566,318	$49,000	$258,000	$1,245,000	Y	N	Yes - partial	S535
S549	21		N	10.66	10.83	534+95	548+00	905		10	9050	11.1	$1,045,750	$5,000	demo wall		$1,284,682		$47,000	$987,000					S549
			N	10.83	10.89	548+00	551+00	300		12	3600			$83,732	extension										
			N	10.89	11.04	551+00	559+00	800		12	9600			$150,400	retaining wall										
																	Total Cost	$36,474,030						

*NSR Appendix E, else underlined benefit count with allowance recalculated for partial length remaining walls.

**Feasibility reasons for modifying walls, or originator of recalculated benefit count

*** Segment was so expensive that adjacent segments of soundwall sel S257/S281 would not have passed the financial reasonableness test, therefore costly sections were isolated to re-evaluate the balance.

22250

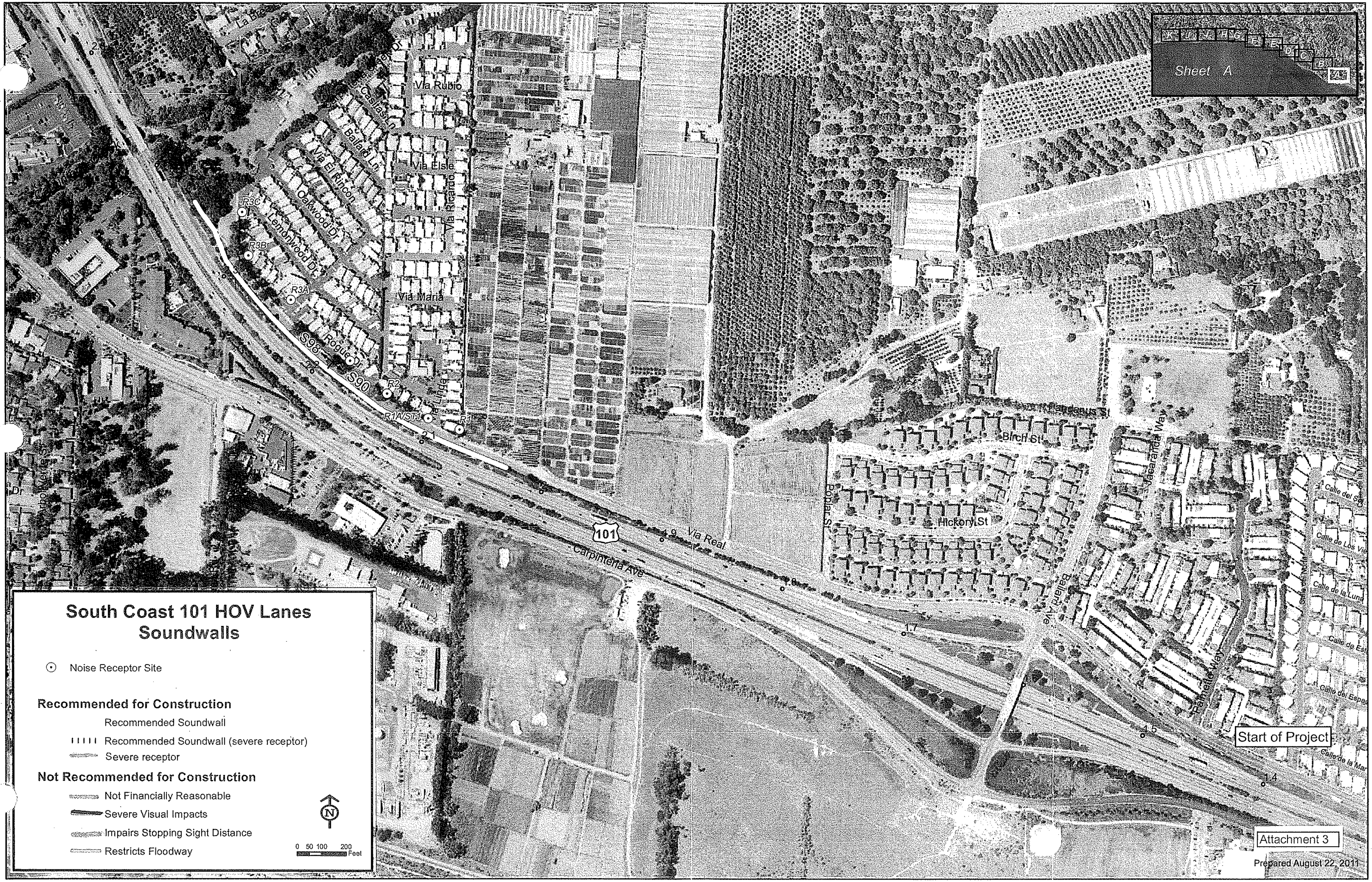
Summary of Soundwalls Recommended for Construction

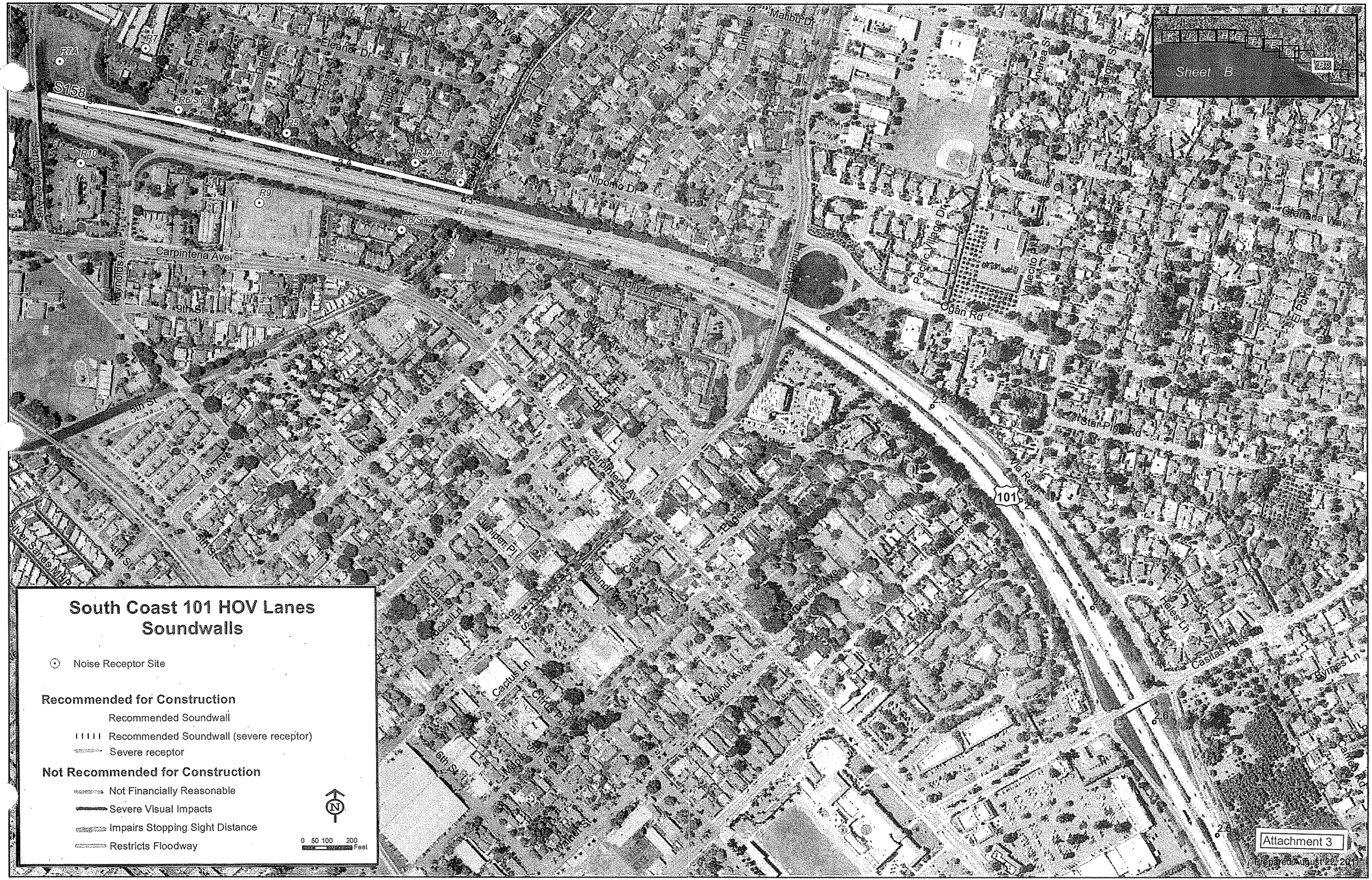
Proposed SW	Number of Benefitted Receivers*	Comments***	Severe Receptors	Wall location PM From station	Wall location PM To station	Wall location NSR From station	Wall location NSR To station	Length (ft)	Ave Ht (ft)	Area (Sf)	Total Cost	Allowance/ Benefited Receiver	Total Allowance	Feasible (Y/N)	Reasonable	Unusual and Extraordinary Abatement Needed?
S90/S98	24		N	2.05	2.38	084+50	102+00	1750	13.7	23956	$1,125,932	$49,000	$1,176,000	Y	Y	Retain wall, no
S158	26		N	3.31	3.65	151+00	169+00	1800	10.7	19200	$902,400	$51,000	$1,326,000	Y	Y	Retain wall, no
S174	12	plus 120' stagger	N	3.67	3.83	170+07	178+56	969	12.0	11628	$546,516	$53,000	$636,000	Y	Y	Retain wall, no
S181	48		Y	3.69	4.07	171+19	191+00	1981	10.0	19810	$931,070	$41,000	$1,968,000	Y	Y	Retain wall, no
S210 partial	12	Unusual and Extraordinary	Y	4.45	4.64	211+00	221+00	1000	10.0	10000	$470,000	$39,000	$468,000	Y	N	Retain portion, yes
S281 partial	32		N	5.41	5.75	262+00	279+80	1780	12.0	21360	$1,443,306	$47,000	$1,504,000	Y	Y	Retain wall, no
S310	17		N	6.23	6.46	305+00	317+50	1250	12.0	15000	$705,000	$51,000	$867,000	Y	Y	Retain wall, no
S392	37		N	7.70	8.16	383+00	407+02	2402	15.7	37732	$1,773,404	$51,000	$1,887,000	Y	Y	Retain wall, yes*
S414	49		N	8.15	8.42	406+50	420+77	1427	16.0	22832	$1,073,104	$49,000	$2,401,000	Y	Y	Retain wall, no
S424	10		10	8.41	8.58	420+36	429+00	864	14.1	12200	$573,400	$51,000	$510,000	Y	N	Retain wall, yes
S464 partial	6	Unusual and Extraordinary	Y	9.13	9.30	458+00	467+00	900	12.0	10800	$507,600	$51,000	$306,000	Y	N	Retain portion, yes**
S464 partial	4	Unusual and Extraordinary	Y	9.41	9.52	473+00	478+75	575	10.0	5750	$270,250	$51,000	$204,000	Y	N	Retain portion, yes**
S498 partial	9	Unusual and Extraordinary	Y	9.74	9.93	490+25	500+50	1025	10.0	10250	$481,750	$53,000	$477,000	Y	N	Retain portion, yes**
S519 partial	12	Unusual and Extraordinary	Y	10.13	10.44	511+00	527+57	1657	11.4	18902	$888,394	$51,000	$612,000	Y	N	Retain portion, yes
S520 partial	8	Unusual and Extraordinary	Y	10.13	10.37	511+00	523+50	1250	10.0	12500	$587,500	$51,000	$408,000	Y	N	Retain portion, yes
S535	6	Unusual and Extraordinary	Y	10.56	10.65	533+75	538+74	499	12.0	5988	$281,436	$49,000	$258,000	Y	N	Retain wall, yes
	312	Count								257908	$12,561,062	Total Cost				

*** Underlined benefit count with allowance recalculated for partial length remaining walls by Allam Alhabaly 9 May 2011

*Severe receptors above wall may need alternative attenuation
**Severe receptors near floodway may need alternative attenuation

NADR Book


South Coast 101 HOV Lanes
Soundwalls
Noise Receptor Site
Recommended for Construction
Recommended Soundwall
Recommended Soundwall (severe receptor)
Severe receptor
Not Recommended for Construction
Not Financially Reasonable
Severe Visual Impacts
Impairs Stopping Sight Distance
Restricts Floodway
N
0 50 100 200
Feet
Sheet A
K
J
I
H
G
F
E
D
C
B
A
Via Rubio
Casitas Ln
Ballard Ln
Via Elsie
Via El Rincon
Oakwood Dr
Lemonwood Dr
Via Ricardo
Via Maria
Rogue Dr
Linda
R3C
R3B
R3A
R2
R1A/ST1
R1
S98
S90
2.3
2.2
2.1
2
1.9
1.8
1.7
1.5
1.4
101
Via Real
Carpinteria Ave
Poplar St
Birch St
Hickory St
Jacaranda Way
Ballard Ave
Palmetto Way
Calle del Norte
Calle del Sol
Calle de la Montana
Calle de Los Vie
Calle de la Luna
Calle de Est
Calle del Espa
Calle de la Mar
Arbol Verde St
Dr
Start of Project
Attachment 3
Prepared August 22, 2011



South Coast 101 HOV Lanes Soundwalls

⊙ Noise Receptor Site

Recommended for Construction

Recommended Soundwall

Recommended Soundwall (severe receptor)

Severe receptor

Not Recommended for Construction

Not Financially Reasonable

Severe Visual Impacts

Impairs Stopping Sight Distance

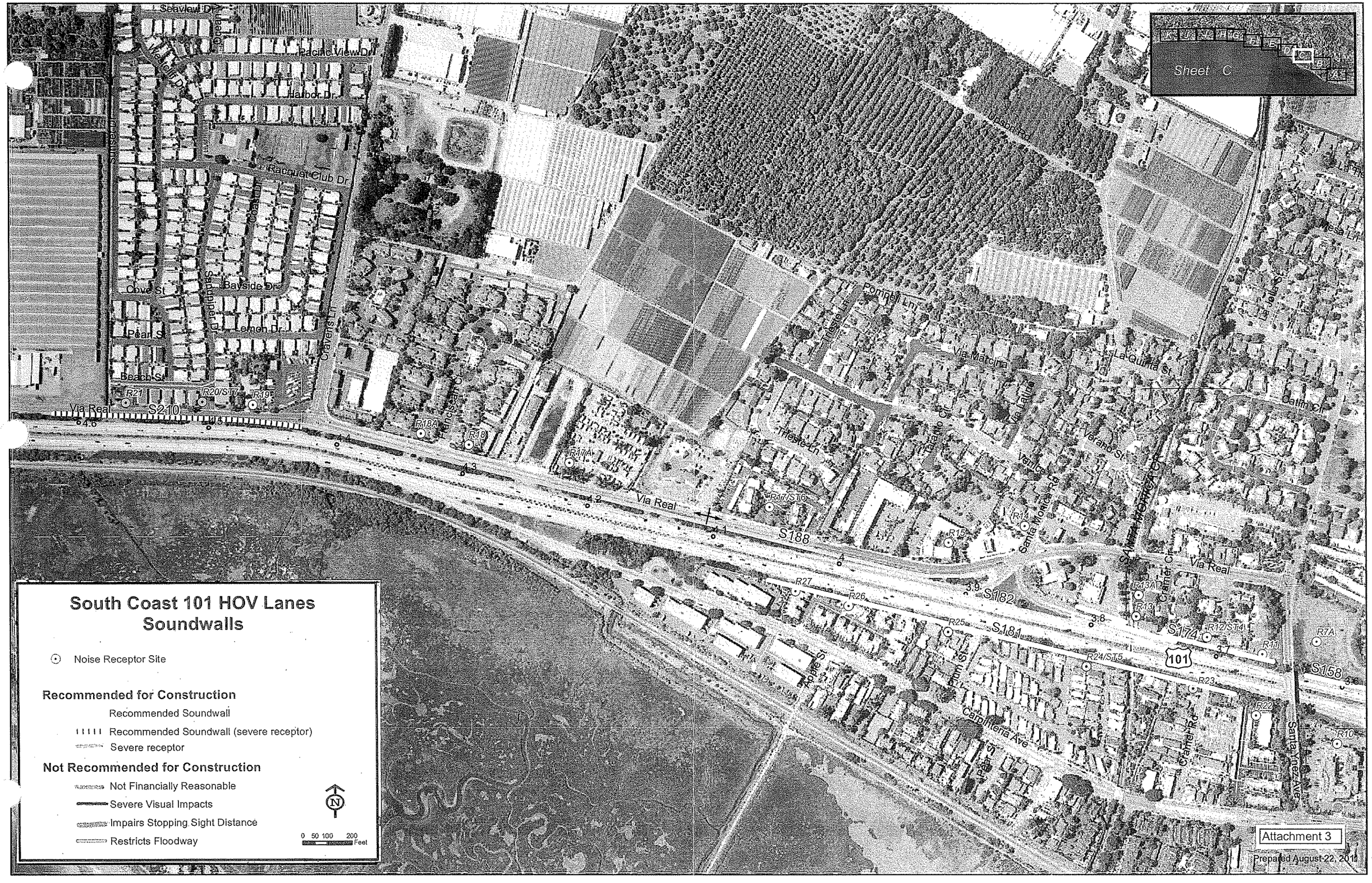
Restricts Floodway

N

0 50 100 200 Feet

Attachment 3

Prepared August 22, 2011



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Attachment 3

Prepared August 22, 2013

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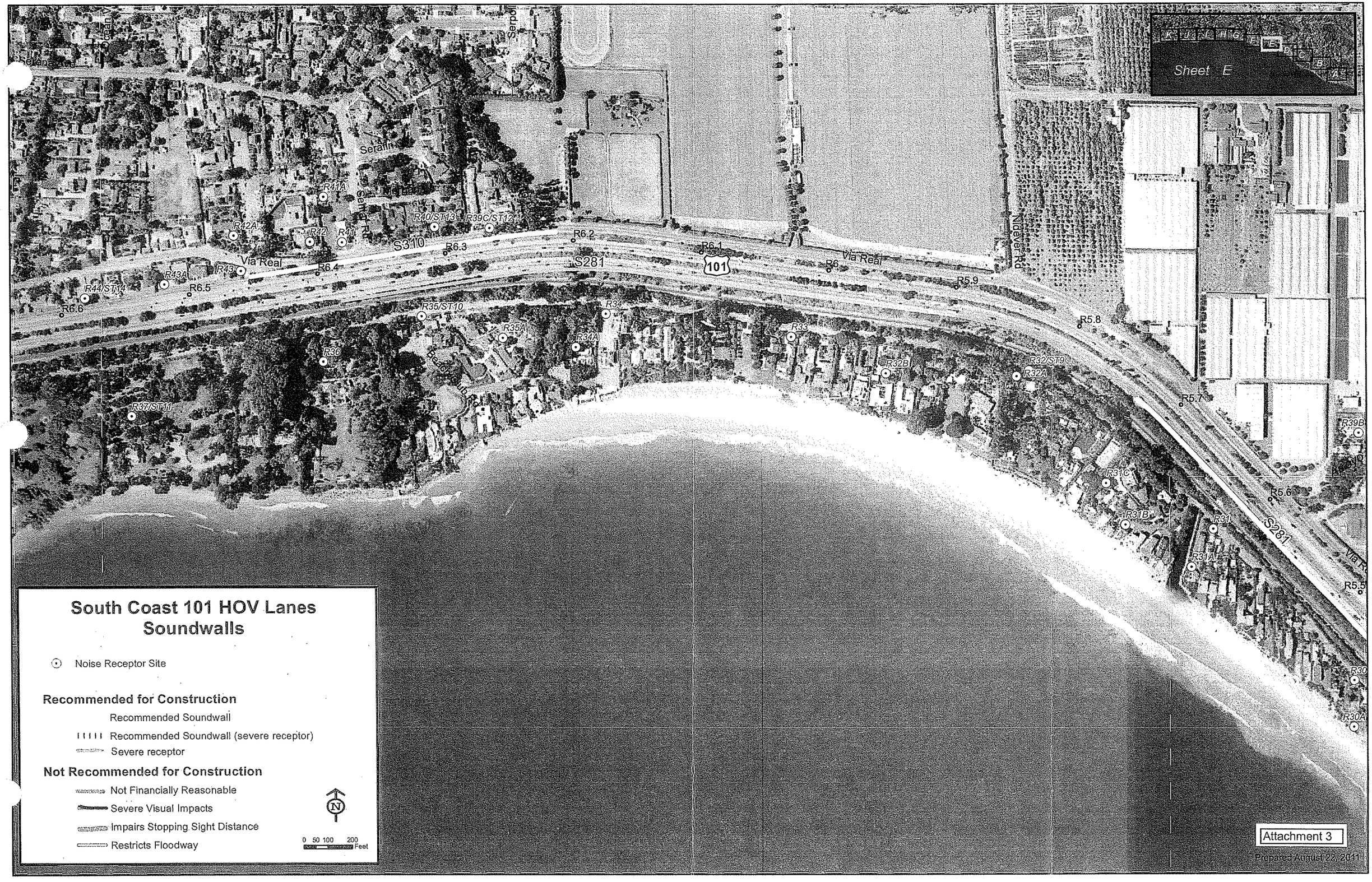
0 50 100 200 Feet

Sheet D

Attachment 3

Prepared August 22, 2017



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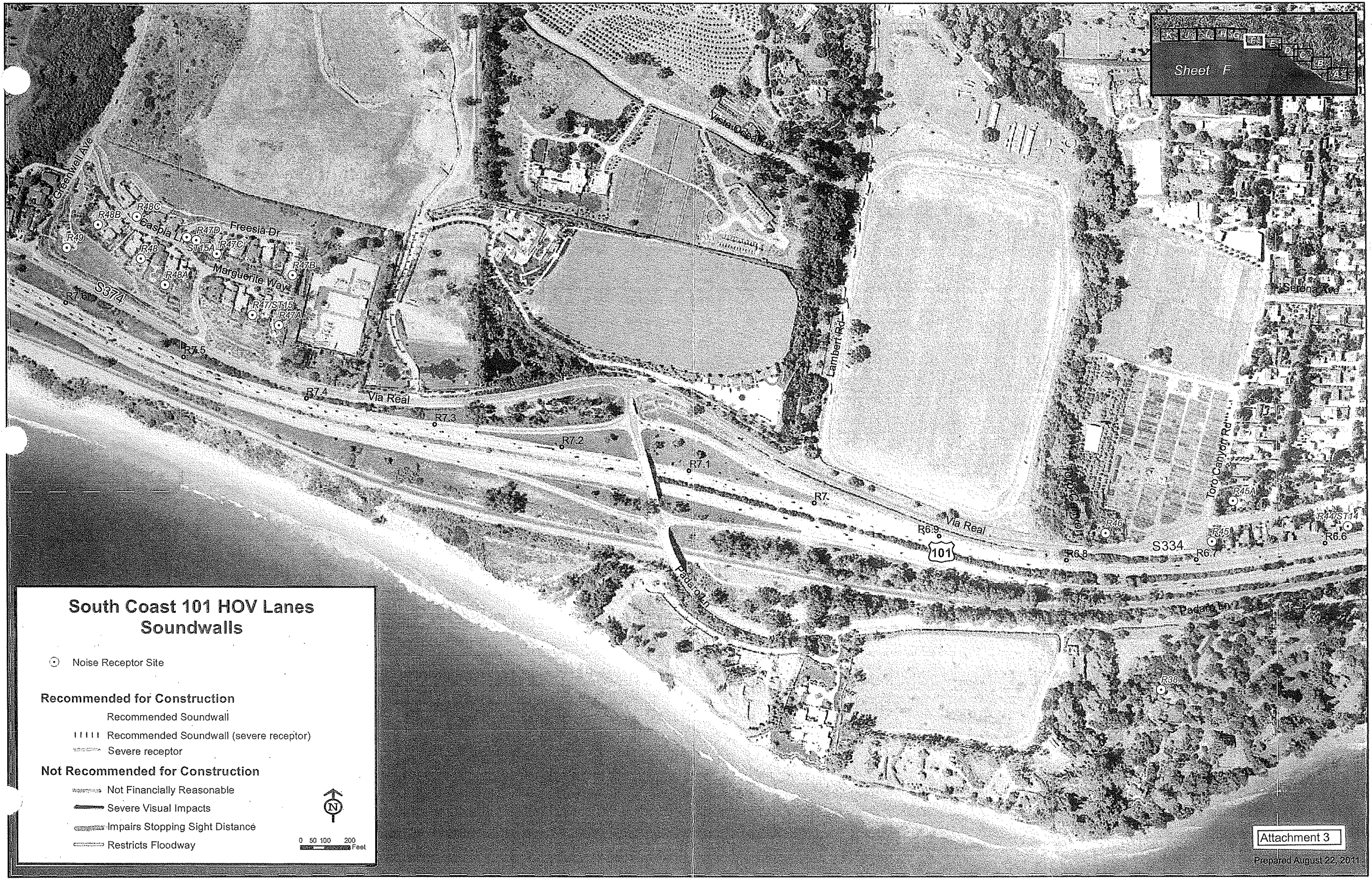
K
J
I
H
G
F
E
D
C
B
A
Sheet F
Greenwell Ave
R48C
R48B
Caspia Ln
R47D
Freesia Dr
R49
ST15A
R47C
R48
R47B
Marguerite Way
R48A
S374
R7.6
R47/ST15
R47A
R7.5
R7.4
Via Real
R7.3
R7.2
R7.1
R7
Vista Oceano Ln
Lambert Rd
Serena Ave
Toro Canyon Rd
Toro Canyon
R45A
R46
R45
R44/ST14
R6.6
S334
R6.7
R6.8
R6.9
Via Real
101
Padaro Ln
Padaro Ln
R38
South Coast 101 HOV Lanes
Soundwalls
Noise Receptor Site
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Recommended Soundwall
Recommended Soundwall (severe receptor)
Severe receptor
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Not Financially Reasonable
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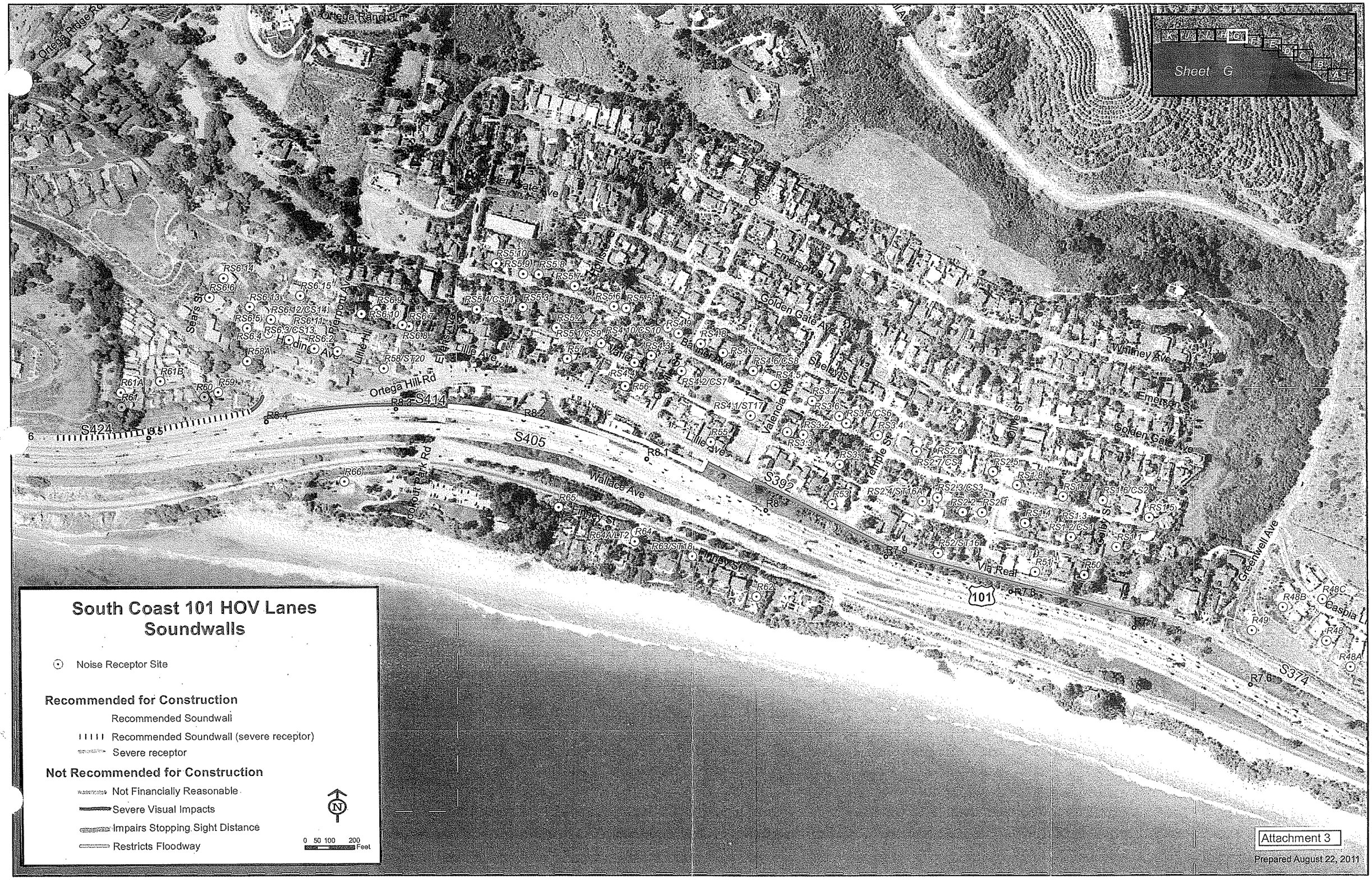
Restricts Floodway
N
0 50 100 200
Feet
Attachment 3
Prepared August 22, 2011



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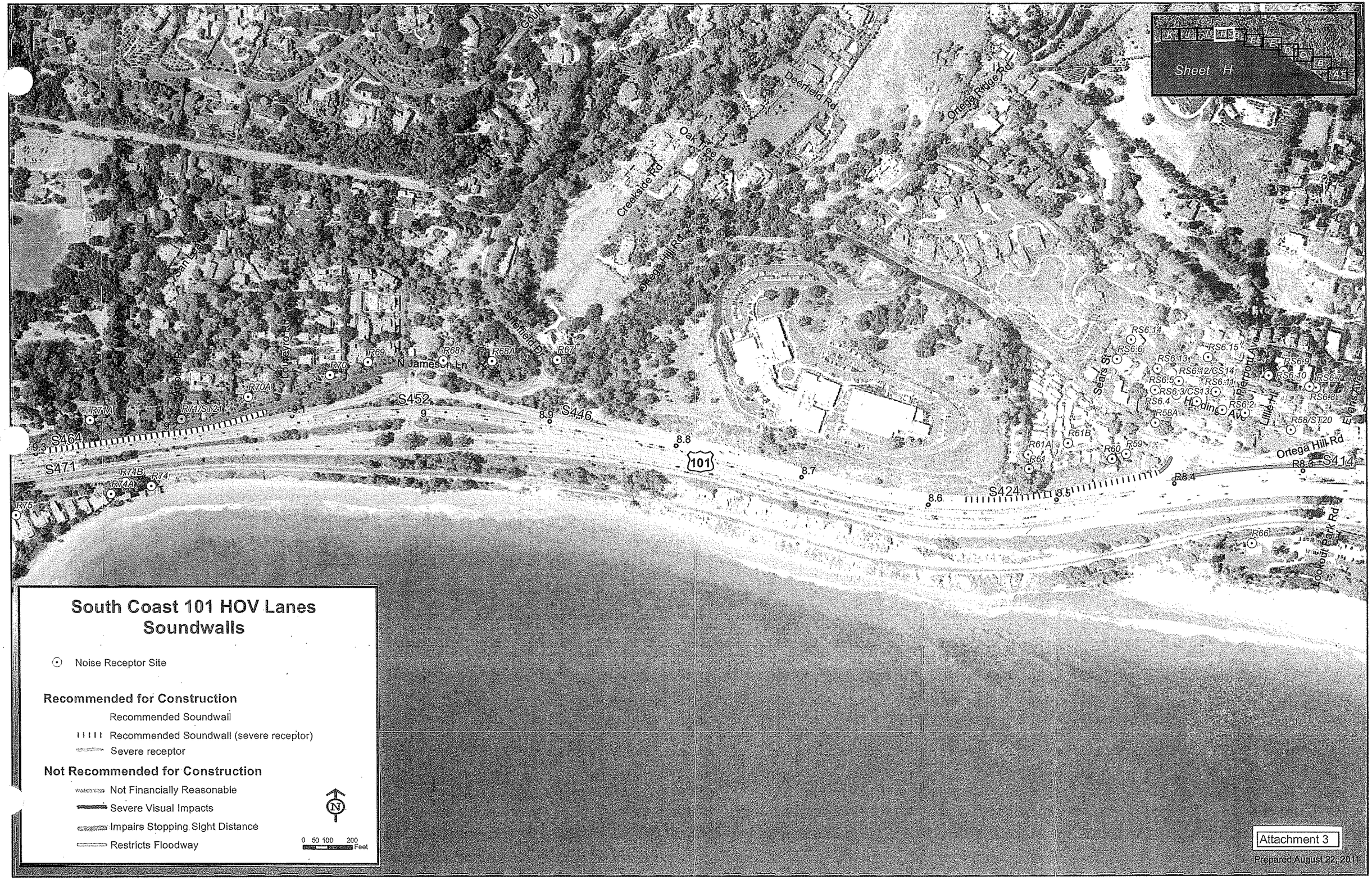
Prepared August 22, 2011



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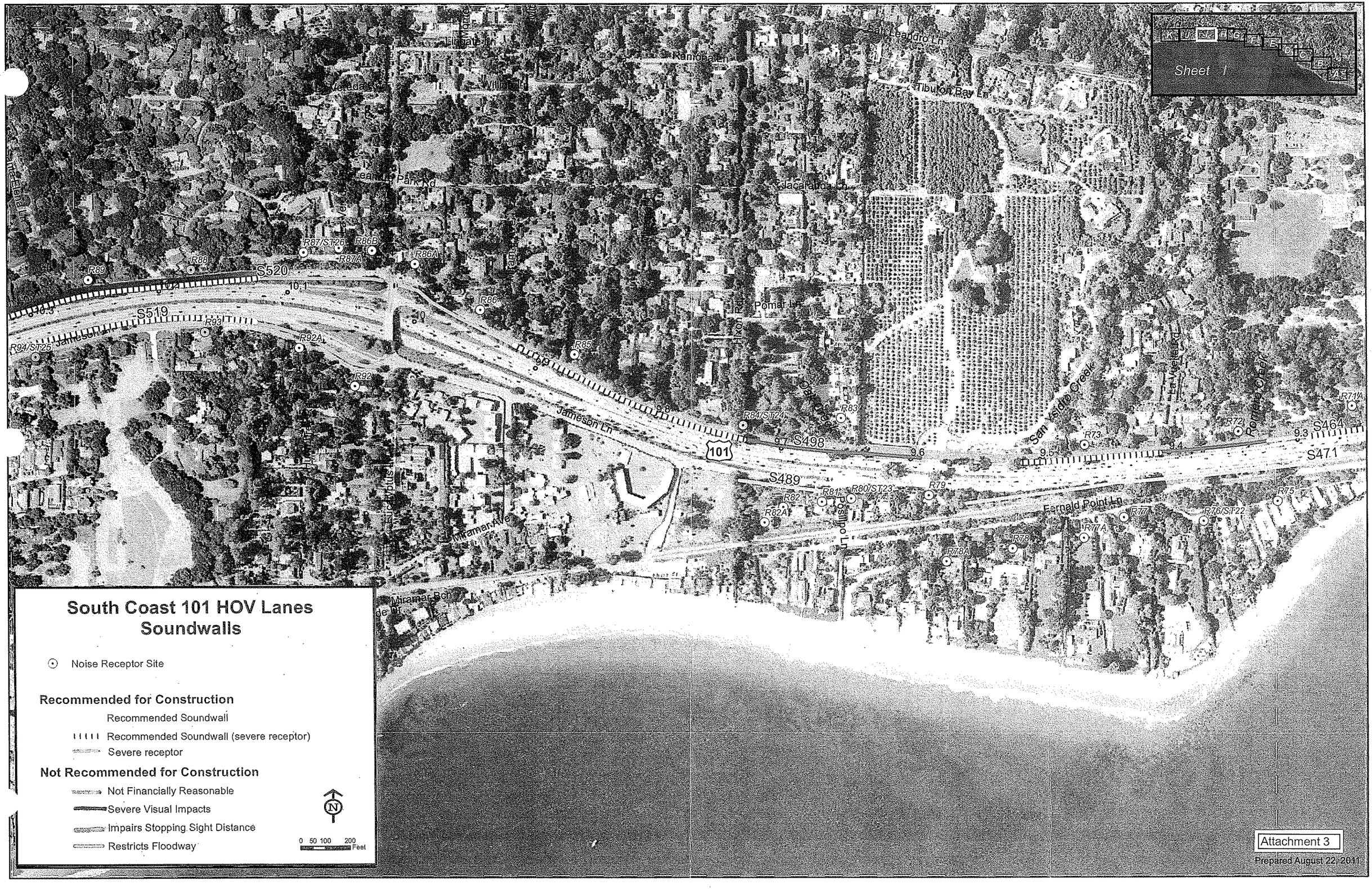

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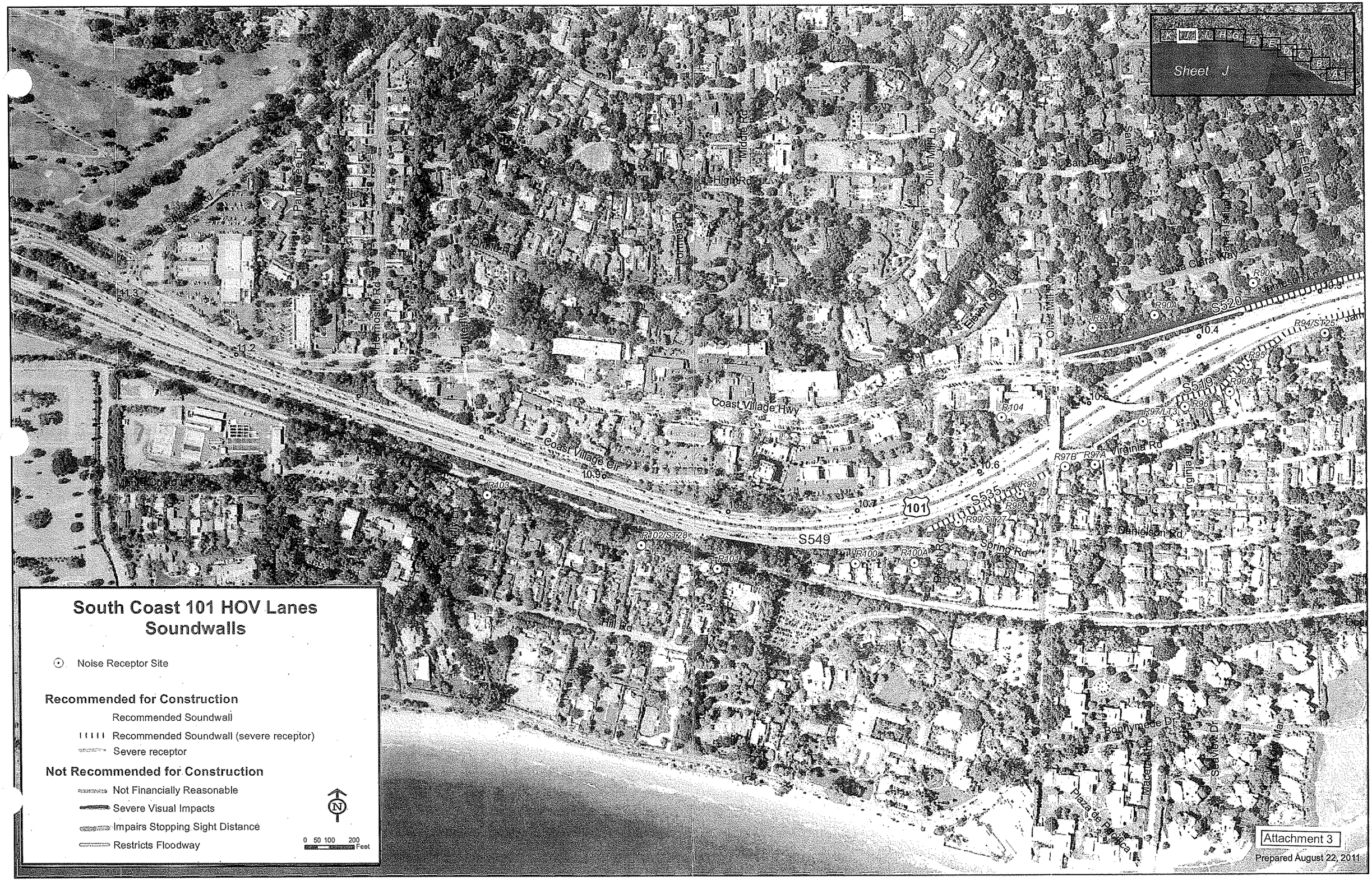

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Attachment 3

Prepared August 22, 2011


Sheet K
K
J
I
H
G
F
E
D
C
B
A
Dillon Ct
Santa Ynez Ct
Lou Dillon Ln
Harbor View
Country Club Dr
Channel View Ln
Ocean View Ave
Old Coast Hwy
Park
Salinas St
Pitos St
Hermosillo St
Punta Gorda St
Canada St
Alberta St
Sycamore Canyon Creek
101
11.4
11.5
11.6
11.7
11.8
11.9
12
12.1
12.2
12.3
Los Patos Way
Cabrillo Blvd
End of Project
Ninos Dr
Por la Mar
Verde Mar
Del Parque
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